Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1.A touch panel comprising:

a plurality of display units arrayed in a matrix, each of the display units comprising:

a container containing magnetic materials;

a transparent film installed on a surface of the container;

a first isolating component installed on a base and a portion of the sidewalls of the container for isolating neighboring containers and carrying the magnetic materials;

a second isolating component for separating the container into two chambers and carrying the magnetic materials, wherein there is an opening between the two chambers; and

at least an electromagnetic apparatus installed under the plurality of display units to act as a base and used for generating a magnetic field to make the magnetic materials separate from a surface of the second isolating component.

[c2] 2.The touch panel of claim 1 wherein the first isolating component is composed of insulating materials.

[c3] 3.The touch panel of claim 1 wherein the second isolating component is composed of insulating materials.

[c4] 4.The touch panel of claim 1 further comprising a panel layer for outputting a corresponding touch signal to a processor when pressed.

[c5] 5.The touch panel of claim 4 wherein the panel layer is installed between the electromagnetic apparatus and the plurality of display units.

[c6] 6.The touch panel of claim 4 wherein the panel layer is installed above the plurality of display units.

[c7] 7.The touch panel of claim 4 wherein the panel layer is a capacitive panel layer.

[c8] 8.The touch panel of claim 4 wherein the panel layer is a resistive panel layer.

[c9] 9.The touch panel of claim 4 further comprising a sensor layer for detecting whether the panel layer is pressed.

[c10] 10.The touch panel of claim 1 wherein the electromagnetic apparatus is an electromagnetic field coil.

[c11] 11.The touch panel of claim 1 further comprising two electromagnetic apparatuses installed under the plurality of display units.

[c12] 12.The touch panel of claim 1 wherein the magnetic materials in the container are magnetic powder.

[c13] 13.The touch panel of claim 1 wherein the transparent film of each of the display units is composed of insulating materials.

[c14] 14.The touch panel of claim 1 further comprising an electromagnetic apparatus switch to switch the electromagnetic apparatus on and off.

[c15] 15.The touch panel of claim 4 further comprising a contact layer installed between the plurality of display units and the panel layer, for transferring the stress from the plurality of display units to the panel layer and the sensor layer.

[c16] 16.The touch panel of claim 1 wherein the contact layer comprises a plurality of protruding materials.